

I claim:

1. A transmission for a marine propulsion system, comprising:

5       a first shaft supported for rotation about a first axis;  
      a second shaft supported for rotation about a second axis; and  
      a clutch which is alternately movable into first position and second  
positions, said first position disconnecting said clutch from torque transmitting  
association with said first and second shafts and disconnecting said first and  
10   second shafts from torque transmitting association with each other, said second  
position connecting said clutch in torque transmitting association between said first  
and second shafts with torque being transferred from said first shaft to said second  
shaft solely through said clutch.

15   2. The transmission of claim 1, further comprising:

      a first gear attached to said first shaft and rotatable about said first axis;  
      a second gear which is rotatable about said second axis; and  
      an intermediate gear disposed in gear tooth meshing association between  
said first and second gears.

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3. The transmission of claim 2, wherein:

      said first gear is a bevel gear;  
      said intermediate gear is a bevel gear;  
      said second gear is a bevel gear; and

25   said clutch is alternately movable into a third position, said third position  
connecting said clutch in torque transmitting association between said second  
bevel gear and said second shaft, said first and second shafts being connected in

torque transmitting association with each other through said first bevel gear, said intermediate bevel gear, said second bevel gear, and said clutch when said clutch is in said third position.

5 4. The transmission of claim 1, wherein:

said first and second axes are generally parallel with each other.

5. The transmission of claim 1, wherein:

said first and second axes are coaxial with each other.

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6. The transmission of claim 3, wherein:

said intermediate bevel gear is rotatable about a third axis which is generally perpendicular to said first and second axes.

15 7. The transmission of claim 1, wherein:

said first shaft is connected in torque transmitting association with a crankshaft of an engine.

8. The transmission of claim 1, wherein:

20 said second shaft is connected in torque transmitting association with a propeller shaft.

9 The transmission of claim 1, wherein:

25 said clutch is connected in threaded engagement with said second shaft through a set of helical splines.

10 The transmission of claim 1, wherein:

said clutch is a cone clutch.

11. A transmission for a marine propulsion system, comprising:

a driving shaft supported for rotation about a first axis;

5 a driven shaft supported for rotation about a second axis, said first and driven shafts being generally coaxial with each other; and

a clutch which is alternately movable into first position and second positions, said first position disconnecting said clutch from torque transmitting association with said first and driven shafts and disconnecting said first and driven  
10 shafts from torque transmitting association with each other, said second position connecting said clutch in torque transmitting association between said first and driven shafts with torque being transferred from said driving shaft to said driven shaft solely through said clutch.

15 12. The transmission of claim 11, further comprising:

a first bevel gear attached to said driving shaft and rotatable about said first axis;

a second bevel gear which is rotatable about said second axis; and

an intermediate bevel gear disposed in gear tooth meshing association  
20 between said first and second bevel gears.

13. The transmission of claim 12, wherein:

said clutch is alternately movable into a third position, said third position connecting said clutch in torque transmitting association between said second  
25 bevel gear and said driven shaft, said first and driven shafts being connected in torque transmitting association with each other through said first bevel gear, said

intermediate bevel gear, said second bevel gear, and said clutch when said clutch is in said third position.

14. The transmission of claim 13, wherein:

5       said first and second axes are generally parallel with each other.

15. The transmission of claim 13, wherein:

      said first and second axes are coaxial with each other.

10   16. The transmission of claim 11, wherein:

      said intermediate bevel gear is rotatable about a third axis which is generally perpendicular to said first and second axes.

17. The transmission of claim 11, wherein:

15       said driving shaft is connected in torque transmitting association with a crankshaft of an engine;

      said driven shaft is connected in torque transmitting association with a propeller shaft; and

      said clutch is connected in threaded engagement with said driven shaft  
20   through a set of helical splines, said clutch being a cone clutch.

18. A transmission for a marine propulsion system, comprising:

      a driving shaft supported for rotation about a first axis;

      a driven shaft supported for rotation about a second axis, said first and  
25   driven shafts being generally coaxial with each other;

      a cone clutch which is alternately movable into first position and second positions, said first position disconnecting said cone clutch from torque

transmitting association with said first and driven shafts and disconnecting said first and driven shafts from torque transmitting association with each other, said second position connecting said cone clutch in torque transmitting association between said first and driven shafts with torque being transferred from said driving shaft to said driven shaft solely through said cone clutch;

a first bevel gear attached to said driving shaft and rotatable about said first axis;

a second bevel gear which is rotatable about said second axis; and

an intermediate bevel gear disposed in gear tooth meshing association between said first and second bevel gears.

19. The transmission of claim 18, wherein:

said cone clutch is alternately movable into a third position, said third position connecting said cone clutch in torque transmitting association between said second bevel gear and said driven shaft, said first and driven shafts being connected in torque transmitting association with each other through said first bevel gear, said intermediate bevel gear, said second bevel gear, and said cone clutch when said cone clutch is in said third position, said first and second axes being generally coaxial with each other, said driving shaft being connected in torque transmitting association with a crankshaft of an engine, said driven shaft being connected in torque transmitting association with a propeller shaft, said cone clutch being connected in threaded engagement with said driven shaft through a set of helical splines, said cone clutch being a cone clutch.

20. The transmission of claim 19, wherein:

said intermediate bevel gear is rotatable about a third axis which is generally perpendicular to said first and second axes.